The Art of Embedded Systems Development – **made Easy™**

To Our Valued Customers,

This PCN affects our LPC3250 OEM board (product number: EA-OEM-401). This board is also sold as part of the LPC3250 Developer's Kit (product number: EA-OEM-410 and EA-OEM-411).

The NAND flash (U11) currently mounted on the EA-OEM-401 board is obsolete.
The currently mounted component (Samsung K9F1G08U0D-SIB0) will be replaced by Samsung K9F1G08U0E-SIB0 or Macronix MX30LF1G08AA-TI. **Either one can be mounted, depending on availability.**

The new NAND components are very compatible. There are however five major differences that are important to be aware of:

NAND chip	Samsung K9F1G08U0D-SIB0	Samsung K9F1G08U0E-SIB0	Macronix MX30LF1G08AA-TI
Status / Differences	Old, now obsolete	New, one of two alternatives	New, one of two alternatives
Random page read operation	35 us (max)	40 us (max)	25 us (max)
Page program time	250 us (max)	400 us (max)	700 us (max)
Block erase time	2 ms (max)	4.5 ms (max)	3 ms (max)
Partial page programming	4 (max)	1 (max)	4 (max)
Read ID operation (command 0x90)	First byte: 0xEC Second byte: 0xF1 Third byte: 0x00 Fourth byte: 0x15 Fifth byte: 0x40	First byte: 0xEC Second byte: 0xF1 Third byte: 0x00 Fourth byte: 0x95 Fifth byte: 0x41	First byte: 0xC2 Second byte: 0xF1 Third byte: 0x80 Fourth byte: 0x1D No fifth byte

Depending on how general and flexible the NAND flash driver you have implemented in your system, these timing and ID changes may, or may not, be handled automatically. The timing changes are typically handled automatically if the ready/busy signal is sampled instead of using fixed delays in the driver code.
Partial page programming shall not be used in order to be compliant with the new chip from Samsung.
The bootloader and Linux kernel might need to be updated to support the new chip. If needed, contact Embedded Artists at info@embeddedartists.com for details.

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Identification

The new NAND flash will be mounted on boards produced after December 2014. All boards from Embedded Artists have a marking: WO-XXXX-YYWW, where XXXX is the WO-number. YY is the year and WW is the week number when the board was produced.

The affected boards will have a WO-number above or including: XXXX ≥ 0597

Kind Regards,
Embedded Artists AB
December 20, 2014